Five-Year Review Report

Lord-Shope Landfill Superfund Site
Girard Township, Erie County, Pennsylvania

Prepared by:

United States Environmental Protection Agency

Region III

Philadelphia, Pennsylvania

Approved by: **Date:**

Abraham Ferdas

Abraham Ferdas, Director
Hazardous Site Cleanup Division
U.S. EPA, Region III

9/10/04

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List of Acronyms

ARAR	Applicable or Relevant and Appropriate Requirement
ATSDR	Agency for Toxic Substances and Disease Registry
CD	Consent Decree
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
COC	Contaminant of Concern
EPA	U.S. Environmental Protection Agency
FS	Feasibility Study
GWR	Ground Water Recovery
GWTS	Ground Water Treatment System
HHRA	Human Health Risk Assessment
ISVS	In Situ Vapor Stripping
LR	Long-Term Response
MCL	Maximum Contaminant Level
MCLG	Maximum Contaminant Level Goal
mg/kg	Milligram(s) per Kilogram
µg/L	Microgram(s) per Liter
NCP	National Contingency Plan
NPDES	National Pollution Discharge Elimination System
NPL	National Priorities List
O&M	Operation and Maintenance
PADEP	Pennsylvania Department of Environmental Protection
PADER	Pennsylvania Department of Environmental Resources
PCOR	Preliminary Close Out Report
PRP	Potentially Responsible Party
RAO	Remedial Action Objective
RBC	Risk-Based Concentration
RD/RA	Remedial Design and Remedial Action
RI	Remedial Investigation
ROD	Record of Decision
RPM	Remedial Project Manager
SARA	Superfund Amendments and Reauthorization Act
TBC	To Be Considered
VOC	Volatile Organic Compound

Executive Summary

EPA's remedy for the Lord-Shope Landfill Site (Site) in Girard Township, Erie County, Pennsylvania, set forth in a Record of Decision issued June 29, 1990, focused on preventing direct contact with landfilled wastes and eliminating or reducing the risks posed by potential ingestion of contaminated ground water. The remedy included the in situ vapor stripping of the landfill materials and the surrounding contaminated soils to reduce the volume of contaminants present in those media, a ground water extraction and treatment system, and the construction of security fencing around portions of the Site to limit access and to eliminate the risks posed by direct contact with, or ingestion of, contaminated soils. Institutional controls were required to restrict the use of ground water in the area occupied by the contamination plume. These measures were taken in addition to the State-mandated remedial actions implemented in 1984 which included a composite cap and revegetation of the landfill to reduce leachate production and the construction of an upgradient ground water cut-off wall which acts to further reduce leachate production. The Site achieved construction completion status with the signing of the Preliminary Close Out Report (PCOR) on September 30, 1996. The first Five-Year Review for this Site was completed on November 4, 1999 at which time the Site was found to be protective of public health and welfare and the environment.

The assessment of the Site by this, the second Five-Year Review, found that the remedy was constructed in accordance with the requirements of the Record of Decision (ROD) and is functioning as designed. The landfill cap, the security fencing and the institutional controls prevent any direct contact with contaminated soil. The institutional controls placed on the deeds to the properties remain in effect and prevent the use of contaminated ground water. Also, the extent of the ground water contamination has been reduced to just north of the Lord-Shope Site property line. Because the remedial action is protective, the Site is protective of human health and the environment.

Five-Year Review Summary Form

SITE IDENTIFICATION		
Site name: Lord-Shope Landfill		
EPA ID: PAD980508931		
Region: 3	State: Pennsylvania	City: Girard Township, Erie County
SITE STATUS		
NPL status: Listed on NPL		
Remediation status: Construction Complete		
Multiple Operable Units (OUs)? No		
Has site been put into reuse? No		
REVIEW STATUS		
Lead agency: EPA		
Author name: Victor J. Janosik		
Author title: Remedial Project Manager		Author Affiliation: U.S. EPA, Region 3
Review period: November 7, 2003 through August 20, 2004		
Date of site inspection: May 4, 2004		
Type of review: Post SARA		
Review number: 2 (second)		
Triggering action: Previous Five-Year Review Report		
Triggering action date: November 4, 1999		
Due date: November 4, 2004		

Five-Year Review Summary Form, cont'd.

Issues:

- There are no outstanding issues or concerns related to the Lord-Shope Landfill Site (Site).

Recommendations and Follow-up Actions:

- There are no recommendations for follow-up actions at the Site.

Protectiveness Statement:

- The remedial actions are protective of human health and the environment. The constructed remedy is functioning as intended by the ROD. The landfill cap, the security fencing and the institutional controls prevent any potential for direct contact with contaminated soil. The institutional controls have been placed and are being maintained on the deeds to the properties and, in concert with other protective measures at the Site, serve to prevent use of, and direct contact with, the contaminated ground water. The treated ground water effluent discharged to the unnamed tributary of Elk Creek is in compliance with NPDES standards. The remedy remains protective of human health and the environment.

Long-Term Protectiveness:

- Long-term protectiveness of the remedy will continue to be verified by inspecting the Site to assess the condition of the landfill cap and the fencing, by monitoring the efficiencies of the ground water extraction and treatment system and the soil vapor extraction and treatment system, by the periodic sampling and analysis of ground water from monitoring wells and residential wells, and by checking on the emplacement of the required institutional controls.

Other Comments:

- Lord Corporation's diligence and cooperation in implementing the long-term response has been exemplary.

Lord-Shope Landfill Superfund Site
Girard Township, Erie County, Pennsylvania
Second Five-Year Review Report
EPA ID No. PAD980508931

I. INTRODUCTION

The purpose of a five-year review is to determine whether the remedy at a site is protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in Five-Year Review reports. In addition, Five-Year Review reports identify issues found during the review, if any, and identify recommendations to address them.

The Agency is preparing this Five-Year Review Report pursuant to Section 121(c) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the National Contingency Plan (NCP). CERCLA §121(c) provides:

> *If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgement of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action.*

The Agency interpreted this requirement further in the NCP in the Code of Federal Regulations (CFR) at 40 CFR §300.430(f)(4)(ii) which provides:

> *If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.*

The U.S. Environmental Protection Agency (EPA), Region 3, conducted this Five-Year Review of the remedial action implemented at the Lord-Shope Landfill Superfund Site (Site) in Girard Township, Erie County, Pennsylvania. This review was conducted by the assigned Remedial Project Manager between November 7, 2003 and August 20, 2004. This report documents the results of the review.

This is the second Five-Year Review for the Site. The triggering action for this statutory review is the date of the first Five-Year Review, as shown in EPA's WasteLAN database: November 4, 1999. The Five-Year Review is required because the remedy implemented resulted in hazardous substances being left onsite in the landfill and in the ground water. The concentrations of hazardous substances in these media are at levels which do not allow for unlimited use and unrestricted exposure.

II. SITE CHRONOLOGY

TABLE 1 - CHRONOLOGY OF SIGNIFICANT EVENTS

Date	Activity
mid 1950s until 1979	Industrial wastes and miscellaneous residual wastes were disposed of at the Site.
1982	Lord Corporation entered into a Consent Order and Agreement with the Pennsylvania Department of Environmental Resources (PADER), now the Pennsylvania Department of Environmental Protection (PADEP), for the implementation of a "remedial alternative" and for continued monitoring at the Site.
1982-1983	Lord Corporation implemented the remedial alternative mandated by the PADER Consent Order and Agreement. This included the removal of 81 drums of waste, the construction of a cap over the landfill, and a low-permeability ground water cut-off wall.
September 1983	The Site is promulgated on the National Priorities List (NPL).
1987	A Consent Order is signed by Lord Corporation and PADER under which Lord agreed to conduct a remedial investigation and feasibility study (RI/FS).
June 29, 1990	The Remedial Investigation and Feasibility Study (RI/FS) process ended with the signing of a Record of Decision (ROD) by EPA.
September 27, 1991	A Consent Decree involving EPA and Lord Corporation for the conduct of a remedial design and a remedial action (RD/RA) is entered in federal court.
July 20, 1994	EPA approved the remedial design.
October 31, 1994	Actual onsite construction of the remedial action began.
September 30, 1996	A Preliminary Close-Out Report was signed by the Director of the EPA, Region 3, Hazardous Waste Management Division thereby designating that the remedial action construction was complete.
November 4, 1999	The first Five Year Review Report was signed by the Director of the EPA, Region 3, Hazardous Site Cleanup Division.
2001	EPA approved a reduction in ground water sampling for monitoring wells to once/year, a reduction in the number of wells being sampled and a modification of the bioparameter list.
August 2002	EPA approved a reduction in the monitoring frequency of Site ground water well hydraulic conditions from 4 times/year to 2 times/year and the inclusion of three additional monitoring well clusters in the monitoring program.
May 4, 2004	A Site visit and inspection was held involving Lord Corporation, EPA, and PADEP representatives to observe the Site for the purposes of the second Five-Year Review.

III. BACKGROUND

Physical Characteristics

The Lord-Shope Landfill Site includes an inactive hazardous waste landfill covering approximately four (4) acres, the ground water underneath the landfill and north of the landfill that is impacted by Site-related contaminants, as well as the appurtenant facilities such as the water treatment plant that are necessary to facilitate the remedial action. The landfill currently appears as a grass-covered hill which rises approximately twenty feet above the surrounding land at its highest point. The 25.2 acre property containing the landfill is now owned by the Lord Corporation (Lord) whose corporate offices are located in Cary, North Carolina.

Land and Resource Use

The Site property is devoted primarily to the ongoing long-term response. For this purpose, Lord has constructed a treatment facility on the eastern end of the property. Lord conducts the needed maintenance of the landfill, the vapor extraction and destruction of volatile organic compounds from the landfill, and the pumping, treatment and discharge of ground water.

The land area surrounding the Site is primarily rural agricultural with scattered residential areas bordering the public roads. The Site property is bounded by residential properties to the east, an apple orchard and vineyard to the south, an evergreen nursery to the west, and a crop field and golf course to the north. The only nearby residences are located along Pieper Road to the east, approximately 1,000 feet from the landfill, and to the north, along Route 20 (West Ridge Road) which, at its nearest point, is approximately 3,500 feet from the landfill. All residences in the area utilize ground water as the potable water source. A map showing the location of the Site is included as Figure 1.

History of Contamination

From the mid-1950s until 1979, industrial wastes including spent adhesives, degreasing solvents, cutting oils, acids and caustics, along with miscellaneous paper, wood and rubber wastes were disposed of at the Site. Some of the wastes were disposed of in drums. The wastes originated at Lord's Erie and Saegertown, PA plants. At the time of disposal, the Site property was owned by Mr. Melvin Shope who was then an employee of Lord.

Initial Response Activities

In 1982, after Lord had conducted some preliminary Site studies, Lord, Mr. Melvin Shope, and the Pennsylvania Department of Environmental Resources (PADER), now the Pennsylvania Department of Environmental Protection (PADEP), entered into a Consent Order and Agreement that called for continued monitoring and the implementation of a "remedial alternative" at the Site. The remedial alternative, implemented under PADER oversight in 1982 and 1983, consisted of the removal of approximately 81 exposed drums of waste, the construction of a composite cap over the landfill, the construction of a low permeability ground water cutoff barrier upgradient (south) of the landfill, and the regrading and revegetation of the Site. The construction of the cap included a clay layer, a synthetic membrane, and a soil cover planted with

grass. The objective of that remedial alternative was to reduce the amount of contamination entering the ground water by reducing leachate production in the landfill and diverting ground water flow around the landfill. Also in 1983, the Site was promulgated as a "Superfund Site" on the National Priorities List (NPL).

In order to supplement the existing Site information and to meet the requirements of CERCLA, PADER and Lord signed a Consent Order in 1987 to conduct a remedial investigation and feasibility study (RI/FS), which was done in two phases. The RI/FS process was completed in June 1990 with the issuance of a Record of Decision by EPA.

Basis for Taking Action

Contaminants

Hazardous substances that were found at the Site during the investigations include:

Surficial Soils

Tetrachloroethene
Toluene
Ethyl Benzene

Deep Soils

Tetrachloroethene
Ethyl Benzene
Toluene

Surficial Soils, con't

Benzene
Methylene Chloride

Deep Soils, con't

Trichloroethene

Ground Water

Methyl Isobutyl Ketone
4-Methyl-2-Pentanol,
Acetone
Methyl Ethyl Ketone
Vinyl Chloride
Trans-1,2-Dichloroethene
Cyclohexanone
2-Butanol
Isopropanol
Trichloroethene
Tetrachloroethene

Potential exposures to ground water at the Site were found to be associated with significant human health risks in that these risks exceeded EPA's risk management criteria for either the average or the reasonable maximum exposure scenarios. The carcinogenic risks and the non-carcinogenic risks were highest for the ingestion of the ground water. Risks related to the possible ingestion of soils at the Site were within acceptable ranges. It was determined that ingestion of water from contaminated surface seeps at the Site was highly unlikely to occur.

Risks related to the potential ingestion of surface water from the two small unnamed tributaries that flow north of the landfill, and from the ingestion of the sediments of those tributaries were determined during the remedial investigation to be within EPA's acceptable range. It was also found that risks posed by inhalation of contaminants in the air at the Site were insignificant because of the very low concentrations of those contaminants and because of the low likelihood of any significant time of exposure.

IV. Remedial Action

Remedy Selection

The Record of Decision (ROD) for the Site was issued by EPA on June 29, 1990. That ROD set forth EPA's Selected Remedial Alternative. There have been no subsequent RODs, ROD amendments or Explanations of Significant Differences. The remedial action objectives are to eliminate or reduce the risks posed by the potential ingestion of contaminated ground water and direct contact with the contaminated soils associated with the Site. Additional goals include meeting the statutory preference for remedies that utilize permanent solutions and alternative treatment technologies to the maximum extent practicable, and using treatment to reduce the mobility, toxicity or volume of the source of contamination.

The major components of the remedy are:

1. A ground water extraction and treatment component to quickly halt plume migration, with the long-term effect of returning the ground water to its most beneficial use (as a drinking water source).

2. The innovative technology of in situ vapor stripping that uses vacuum wells to volatilize and remove volatile organic compounds from the landfill materials and surrounding soils.

3. The additional protection provided by institutional controls to restrict the use of contaminated ground water, and the installation of security fencing around the property to prevent direct human contact with contaminants at the Site.

Remedy Implementation

A Consent Decree signed by Lord Corporation and EPA was lodged in federal court on September 27, 1991. In that Consent Decree, Lord agreed to conduct the Remedial Design and Remedial Action (RD/RA) necessary to implement the ROD.

Remedial Design

The Remedial Design (RD) was conducted in conformance with the ROD and the Consent Decree. The RD was approved by EPA on July 20, 1994.

Remedial Action

As noted above, the Remedial Action (RA) had three primary components:

1. A ground water extraction and treatment component to quickly halt plume migration, with the long-term effect of returning the ground water to its most beneficial use---that use being as a drinking water source. Ultimately, the ground water contaminants are to be reduced to background concentrations.

2. The innovative technology of in situ vapor extraction that uses vacuum wells to volatilize and remove volatile organic compounds (VOCs) from the landfill materials and surrounding soils. The VOCs are to be subjected to thermal treatment.

3. Institutional controls to restrict the use of contaminated ground water, and the installation of security fencing around the property to prevent direct human contact with contaminants at the Site.

The ground water extraction and treatment component is classified as a long-term response (LR). Even though the ROD lists maximum contaminant levels (MCLs) as requirements for ground water, the cleanup goal identified in the ROD was the Pennsylvania requirement that all ground water must be remedied to "background" quality. The background contaminant levels must be attained unless it is demonstrated that the attainment of those levels is technically impracticable or that the contaminant levels can otherwise be waived under CERCLA Section 121(d), 42 U.S.C. Section 9621(d). Such a waiver, or a change from the "background" standard, would require a modification to the ROD. [Since the issuance of the ROD, the Commonwealth of Pennsylvania has promulgated a statute, the Land Recycling and Environmental Remediation Standards Act ("Act 2") of 1995 which does not necessarily require that contaminated ground water be cleaned up to background standards. However, the ROD has not been modified to permit any standard lesser than "cleanup to background" for ground water.]

Lord Corporation mobilized at the Site on October 31, 1994 to begin construction of the remedy with the installation of a discharge line for the ground water treatment system (GWTS). Work on the other components of the GWTS, including the construction of the ground water treatment building, and work on the in situ soil vapor stripping (ISVS) system began in the spring of 1995 and continued through the fall of that year. The ISVS system consists of a vapor extraction system, vapor collection header system, vapor treatment system (thermal oxidizer), monitoring components and controls. The ground water recovery (GWR) system includes two ground water recovery wells, an underground force main, controls, and associated electrical equipment. The GWR wells are connected to the below-ground header system that conveys recovered ground water to the ground water treatment system. The entire ground water treatment system became operational in June 1996. The system provides metals removal through solids separation and volatile organics removal by air stripping. EPA considers an LR site to be "construction complete" when the physical construction of the remedy is complete. Lord Corporation completed the construction of the remedy on June 5, 1996.

The construction activities took place in a manner consistent with the ROD, the EPA-approved Remedial Design and Remedial Action Work Plan. The Remedial Design Reports, including Quality Assurance Project Plans, incorporated all EPA and State quality assurance and quality control procedures and protocols. Lord implemented the construction and quality control plans in accordance with the Remedial Design specifications. On August 8, 1996 the pre-

certification inspection was conducted and no remedial action construction deficiencies were noted by EPA, EPA's oversight contractor (Halliburton NUS), or PADEP.

The required institutional controls, including deed restrictions, and the Site fencing were implemented by Lord Corporation in 1991 shortly after the lodging of the Consent Decree.

System Operation and Maintenance

Operation and maintenance (O&M) activities at the Site are performed according to the approved **"Operation And Maintenance Manual For The ISVS And GWTS"** prepared for Lord Corporation by Eckenfelder Inc., and dated August 1996. The primary activities associated with O&M include the following:

- Monitoring of the GWTS discharge to the unnamed tributary of Elk Creek to assure that NPDES standards are not being exceeded;
- Maintenance of the grass cover and the cap of the landfill;
- Maintenance of the fence surrounding the landfill and treatment building;
- Assuring that the GWR system is functioning properly;
- Assuring that the GWTS is operating as designed;
- Assuring that the ISVS system is functioning as designed;
- Operating and maintaining the thermal oxidizer unit;
- Inspection of the condition of the ground water monitoring wells;
- The twice-yearly sampling of residential wells for Site-related contaminants;
- The measuring, on a semi-annual basis, of water levels in the Site's ground water monitoring wells;
- The annual sampling of the Site's ground water monitoring wells for Site-related contaminants; and
- The reporting of Site conditions including ground water sample analysis results, NPDES discharge sample analyses, and the operating efficiencies of the GWTS and the ISVS systems to EPA and PADEP.

All O&M costs are born by Lord Corporation. The ROD estimated that average annual operation and monitoring costs would be $310,000 and utilized the default duration of 30 years. EPA has not been made privy to Lord Corporation's actual incurred total O&M related expenses, however, EPA has been informed by Lord that energy costs alone (for electricity and natural gas) are approximately $45,000 per year. O&M costs at the Site include expenses related to

maintenance of the landfill cap and fencing, the operation of the vapor stripping system and the thermal oxidation system, the pumping and treatment of contaminated ground water, the discharge of treated ground water, and monitoring of the various Site wells and the residential wells.

V. Progress Since The Last Five-Year Review

The first Five-Year Review for the Site was signed by the EPA, Region 3, Director of the Hazardous Site Cleanup Division on November 4, 1999 ("1999 Five-Year Review"). The 1999 Five-Year Review protectiveness evaluation concluded that the remedy was protective of human health and the environment.

Ground water monitoring since the 1999 Five-Year Review has shown ground water contaminant concentrations to be generally in decline over the Site. In the year 1989, the area of ground water contamination was known to extend approximately 1400 feet north (down gradient) of the landfill. The remedial measures have resulted in the northern limit of the contaminated area retreating to approximately 500 feet north of the landfill in 2003 (at monitoring well W-33). Similarly, concentrations of contaminants near the current northern limits of the contaminated area have generally shown declines. For example, the concentration of methyl iso-butyl ketone (MIBK) in monitoring well W-43B, which is located in the intermediate ground water zone just inside the northern boundary of the Lord-Shope property, has steadily declined. In June 1999, the MIBK concentration in that well was 3,500 µg/L. By November 2002, the concentration had dropped to approximately 49 µg/L and in November 2003, MIBK was not detected in W-43B. Also in that well, vinyl chloride concentrations declined from approximately 27 µg/L in June 1999 to approximately 2 µg/L in November 2002. Vinyl chloride was not detected in W-43B in November 2003. Monitoring well W-9WT, located in the water table zone and much closer to the landfill than W-43B, showed approximately the same degree of volatile organic compound (VOC) contamination in November 2002 as it did in November 1999. However, a marked decrease in contaminant concentrations was found in W-9WT during the November 2003 sampling event. Figure 2 shows the locations of the wells used for monitoring ground water quality.

The shrinking area of contamination and the declines of contaminant concentrations in the outlying wells influenced EPA to approve a reduction in both the sampling frequency and in the number of wells being sampled beginning in 2001. In 2002, EPA also approved a reduction in the frequency of ground water level monitoring. Historical ground water contaminant concentrations going back to 1996 can be found in the document titled "Groundwater Monitoring Report For CY-2003 Sampling Events [;] Lord-Shope Landfill Site," dated March 2004.

The GWR system extracts ground water from two recovery wells drilled into the Intermediate water-bearing zone and located immediately downgradient of the landfill. The GWR system extracted an average of 18,021 gallons per day during 2003. That water is subjected to the GWTS for contaminant removal and the treated water is discharged onsite to an unnamed tributary of Elk Creek which then flows into Lake Erie. The GWTS reduction of total volatile organic compounds (VOCs) since the last five-year review in 1999, as calculated on a monthly basis, has been excellent, often at or near the 100% reduction level. The discharge to the unnamed tributary has consistently met the National Pollution Discharge Elimination System (NPDES) standards set for the Site.

The thermal oxidizer that treats the gasses extracted from the landfill via the ISVS system typically operates at an efficiency equal to, or exceeding, 99 percent. The amount of VOCs entering the ISVS has decreased over time as shown on Figure 3.

VI. Five-Year Review Process and Findings

A. Five-Year Review Team and Schedule

EPA notified Lord Corporation and PADEP of the initiation of the Five-Year Review in November 2003. The Lord-Shope Landfill Site Five-Year Review team was led by Victor Janosik, EPA's Remedial Project Manager (RPM) for the Site, and included Trish Taylor, EPA's Community Involvement Coordinator, and members from the Regional Technical Advisory staff with expertise in the application of applicable or relevant and appropriate requirements (ARARs), hydrology, air quality management and risk assessment. Mr. Nathan Welker and Mr. Gary Mechtly, Pennsylvania Department of Environmental Protection project managers, assisted in the review as the representatives of the support agency. A Site-specific approach was developed for this second Five-Year Review.

The approach established for the Five-Year Review included:

- Community Involvement – Notifying the community that EPA is conducting a Five-Year Review at the Site and providing information on whom to contact and how to get more information about the process, conducting community interviews to solicit issues and/or concerns and to continue public education efforts, and notifying the community of how to obtain a copy of the second Five-Year Review Report upon its completion;

- Document and Data Review – Reviewing significant Site documents and environmental monitoring data. Researching ARARs cited in the ROD for revisions as well as potentially new ARARs which may be significant to the Site circumstances, checking available published toxicity references for Site-related contaminants to determine if there have been changes since the Site-specific risk assessment which may be relevant to the review team's evaluation of remedy protectiveness;

- Site Inspection – Visiting and inspecting the Site to visually confirm and document the conditions of the remedy, the Site, and the surrounding area. Also, conducting a check to confirm that the institutional controls in the form of a deed notice are in place; and

- Conducting the Five-Year Review Report development and review.

The Five-Year Review schedule extended from November 7, 2003 to August 20, 2004.

EPA will continue to perform five-year reviews because the remedy implemented relies on the combination of containment and institutional controls to prevent exposure to contaminated soils and ground water that remain on-Site and which have contaminant concentrations which do

not permit unrestricted use. The Site hazards are limited and well defined. Both the hazard source and the containment and treatment technologies utilized at the Site are well understood by EPA.

B. Site Inspection

On May 4, 2004, an inspection of the Site was conducted. The purpose was to observe the Site conditions by making a visual inspection of the various components of the long-term response, including the Site's operational log books, as well as discussing the components of the remedial action with Lord Corporation representatives. Persons present for the Site inspection included Mr. George M. Kickel, Manager of Environmental Services for Lord Corporation; Mr. Robert E. Nipper, Staff Environmental Engineer for Lord Corporation; Mr. Donald Zimmer, PADEP Environmental Chemist; Mr. Gary L. Mechtly, PADEP Environmental Protection Specialist; several personnel from Brown and Caldwell, the environmental engineering and consulting firm representing Lord Corporation; and Mr. Victor J. Janosik, Remedial Project Manager for EPA.

The team inspected the treatment plant log books and found them to be up-to-date and in good order. The team then toured the ground water treatment plant and also observed the thermal oxidation unit. These were in good operating condition. The inspection team walked across the landfill and observed that the landfill cover is in good repair and is well vegetated, and that the property is completely fenced with chain-link fencing in good repair. The entire facility is functioning as designed and is being operated conscientiously by Lord Corporation.

C. Document Review

This Five-Year Review included a review of relevant documents including O&M records and monitoring data.

The following documents were reviewed for this Five-Year Review:

- Eckenfelder, Inc., Revised Baseline Public Health Evaluation, Phase II Remedial Investigation, Lord/Shope Site, July 1989.
- USEPA, Record of Decision, June 29, 1990.
- United States of America, Plaintiff v. Lord Corporation, Defendant, Civil Action No. 91-177E (Consent Decree), September 1991.
- Eckenfelder, Inc., Operation And Maintenance Manual For The ISVS And GWTS, August 1996.
- Eckenfelder, Inc., Remedial Action Construction Documentation Report, Volumes I and II, September 1996.
- USEPA, Superfund Preliminary Close Out Report, September 30, 1996.

- Eckenfelder, Inc., Response to USEPA Region III Comments On The Remedial Action Certification Report, August 1997.
- Deed Restrictions (filed 1991).
- Lord Corporation, Shope Residential Well Samples Spring 2003, May 27, 2003.
- Brown and Caldwell, Groundwater Quality Summary For November 2002 Sampling Event, September 2003.
- Lord Corporation, Monthly NPDES reports.
- Lord Corporation, Lord-Shope Remedial Action Monthly Reports.
- PADEP, Revised NPDES discharge requirements letter to Lord Corporation, May 28, 2002.
- Brown and Caldwell, 2002 Hydraulic Monitoring Report, November 2003.
- USEPA, Five-Year Review Report, November 4, 1999.
- Brown and Caldwell, Groundwater Monitoring Report For CY-2003 Sampling Events, March 2004.

D. Data Review

Surface Water and Sediment - Environmental sampling, during the remedial investigation, of the surface water and sediments of the two small tributaries of Elk Creek provided information leading to a determination that the risks posed by those media were within EPA's acceptable range. Also, it was determined that the small seeps found in the Site area were unlikely to provide a pathway for significant exposures.

Site-Related Ground Water Wells - Ground water at the Lord-Shope Landfill Site flows generally to the north. There are currently 17 wells used specifically and exclusively for the monitoring of ground water, including the monitoring of biodegradation parameters. Eight of the wells are bored into the upper or water table zone and range in depth from 13.5 feet to 25 feet. Nine of the wells are bored into the intermediate zone (the water-bearing zone immediately below the water table zone) and range in depth from 28 to 55 feet. (No Site-related contamination has been detected in water-bearing zones below the intermediate zone.) Two additional wells, identified as IPE-1 and IPE-2, are located along the northern boundary of the landfill and are used as the extraction wells for the ground water treatment system. The wells are shown on Figure 2.

In 1989, volatile organic compounds (VOCs) were detected in wells W-20B, W-33, W-36A and W-39A, all of which are (or were) located north of the Lord-Shope Site property. At that time, the area of Site-related ground water contamination extended more than 1400 feet north of the landfill. Since 1989, as a result of the pumping and treatment of the ground water, only one of the four wells, well W-33, has shown VOC contamination, and only for vinyl chloride. Well W-

33 is located approximately 500 feet north of the landfill indicating that the linear extent of the ground water contamination, in a northerly direction, has decreased by 900 feet since 1989. Even at that location, the incidence of contamination is restricted to low concentrations of vinyl chloride, and is detected only sporadically. The ground water wells more immediately north of the landfill continue to show significant Site-related contaminant concentrations. However, the majority of this contamination is limited to the property owned by Lord Corporation and is being controlled by the ground water pumping and treatment systems.

In 2001, based upon favorable reviews of the ground water analytical results, EPA approved a reduction in the frequency of the sampling of the Site's monitoring wells from semi-annual to annual sampling, therefore, all of the monitoring wells are currently sampled once per year for Site-related contaminants. Also, in August 2002, based upon Lord Corporation's "2001 Hydraulic Monitoring Report...," EPA approved a reduction in the monitoring of the Site-related wells for hydraulic conditions from quarterly to semi-annually. Figure 4 shows the decrease over time in the amount of VOCs entering the Site's water treatment system from the two ground water extraction wells.

Additionally, a total of thirteen (13) wells used as potable water supplies by nearby residents living to the east and northeast of the landfill along Pieper Road, and by residents living to the north and northwest of the landfill along West Ridge Road, are monitored in spring and fall of each year. Analyses of the water from these wells has consistently shown no influence from Site-related contaminants.

ISVS System - The operation of the ISVS was reviewed by an EPA, Region 3, air quality specialist for the possible formation of dioxins and their discharge through the unit's effluent. It was determined that the unit is unlikely to discharge dioxins as part of the effluent primarily because the unit operates at a temperature of 1700 degrees F, has a long retention time and produces a very minimal amount of fly ash.

E. ARARs Review

ARARs identified in Section XI (Statutory Determinations) of the ROD were reviewed and subsequently researched to determine if any significant changes to those ARARs had occurred. This section considers potential impacts of any new or changed ARARs on the potential risk posed to human health or the environment. This analysis determined that recalculations of risk or risk assessments to determine whether the remedy continues to protect human health and the environment as planned are not necessary for the Lord-Shope Landfill Superfund Site.

The following are listed as applicable or relevant and appropriate requirements ("ARARs") in the June 29, 1990 Record of Decision:

1. Chemical-Specific ARARs:

a. Relevant and appropriate maximum contaminant levels (MCLs) promulgated under the Safe Drinking Water Act, 42 U.S.C. § 300f to 300j-26, and set forth at 40 C.F.R. §§ 141.11(b) and 141.61(a) and proposed MCLs set forth in 54 Fed Reg. 22062 (May 22, 1989) are:

Substance	MCL/ [Proposed MCL]
Benzene	5 ppb
Chlorobenzene	[100 ppb]
Tetrachloroethene	[5 ppb]
Toluene	[2000 ppb]
Trans-1,2 dichloroethylene	[100 ppb]
Trichloroethene	5 ppb
Vinyl Chloride	2 ppb
Arsenic	50 ppb
Barium	1000 ppb
Cadmium	10 ppb
Chromium	50 ppb
Lead	50 ppb

b. The Pennsylvania ARAR for ground water for hazardous substances at the time the ROD was issued was that all ground water was to be remediated to "background" quality as specified by 25 Pa. Code Section 75.264(n).

c. The National Emissions Standards for Hazardous Air Pollutants (NESHAPs) set forth at 40 C.F.R. § 61.63 and promulgated under the Clean Air Act, 42 U.S.C. § 7401 contain an emission standard for vinyl chloride plants which is relevant and appropriate to the air stripping and in situ vapor stripping treatment. The vinyl chloride emission standard is 10 ppm (average for a 3-hour period).

2. Location-Specific ARARs:

No location-specific ARARs with respect to this Site have been identified.

3. Action-Specific ARARs:

a. 25 Pa. Code Sections 123.1 and 123.2 are applicable to the remedial alternative, and require that dusts generated by any earth moving activities be controlled with water or other appropriate dust suppressants.

b. To the extent that new point source air emissions result from the implementation of the remedial alternative, 25 Pa. Code Section 127.12(a)(5) will apply, requiring that emissions be reduced to the minimum obtainable levels through the use of best available technology ("BAT") as defined in 25 Pa. Code Section 121.1.

c. Treatment and discharge of contaminated ground water to an unnamed tributary of Elk Creek cause the requirements of Pennsylvania's NPDES program to apply. Those requirements, as set forth in 25 Pa. Code Sections 93.1 through 93.8, include permitting, design, discharge, and monitoring requirements which are to be met in implementing the remedial alternative.

d. 25 Pa. Code Sections 102.11 through 102.24 contain relevant and appropriate standards requiring the development, implementation and maintenance of erosion and sedimentation control measures and facilities which effectively minimize accelerated erosion and sedimentation.

e. 25 Pa. Code Sections 105.291 through 105.314, promulgated in part under Pennsylvania's Dam Safety and Encroachments Act of 1978, set forth applicable permitting and design requirements relating to the ground water treatment discharge pipe/headwall construction.

f. 25 Pa. Code Sections 264(o)(2), (10)-(14) and 264(v)(3)(xxvi)(F)(I), (IV) and (V) contain relevant and appropriate requirements precluding any breaches of the integrity of the existing landfill cap except under certain circumstances, which circumstances are to be met by the remedial alternative. Those provisions also require repair of the landfill cap, as needed.

g. The ground water treatment and in situ vapor stripping treatment is to be implemented consistent with the requirements of 40 C.F.R. Section 262 (regarding standards applicable to generators) and the substantive requirements for the treatment, storage and disposal of hazardous wastes set forth in 40 C.F.R. Sections 263 (regarding transporters of hazardous wastes) and 264 Subparts B-H (regarding general requirements for TSD facilities).

Since the ROD was issued in 1990, the MCL for arsenic has been changed from 50 ppb to 10 ppb. Also, the MCL for lead at the issuance of the ROD was 50 ppb. The drinking water standard for lead has since been revised to an action level of 15 ppb. These changes, however, do not affect the protectiveness of the selected remedy which calls for cleanup of ground water contaminants to background concentrations.

The human health risk assessment (HHRA) for the Site was conducted using the guidelines established in the Superfund Public Health Evaluation Manual (EPA, October 1986.) Since that time EPA has developed the following guidance documents:

- Risk Assessment Guidance for Superfund - Volume I - Human Health Evaluation Manual, Parts A to E - Interim Final (1989 to 2001),

- Risk Assessment Guidance for Superfund - Volume I: Human Health Evaluation Manual - Supplemental Guidance - "Standard Default Exposure Factors" - Interim Final (1991), and

- Dermal Exposure Assessment: Principles and Applications (1992).

These documents provide additional guidance and default values to standardize the methods for conducting HHRAs. There have been no significant revisions in the methodology for HHRAs since the RI was prepared other than the quantitative analysis of the inhalation exposure pathway.

EPA, Region III, Risk-Based Concentrations (RBCs) and Pennsylvania's Land Recycling and Environmental Remediation Standards Act (Act 2) provide benchmarks used to evaluate chemicals of concern (COCs) for direct contact with soil, sediment, surface water and ground water. Another benchmark used to select COCs for ground water includes the EPA Maximum Contaminant Levels (MCLs). In addition, EPA Soil Screening Levels and Act 2 include

benchmarks for the protection of migration from soil to ground water and soil to air for pollutant mobility and volatilization from soil to indoor air. The USEPA Region III RBCs are usually updated twice a year. Act 2 was promulgated in 1995 after the ROD was issued.

The benchmarks used to calculate cancer and noncancer risks include EPA's Integrated Risk Information System, EPA's Health Effects Assessment Summary Tables, and EPA's National Center for Exposure Analysis Regional Support Provisional Service. These benchmarks are continually updated as information becomes available. Some of the cancer slope factors and non-cancer reference doses may have been changed, withdrawn, or added in these benchmarks. Therefore, risks might be slightly different if the HHRA were conducted at present. Some of the dermal exposure parameters have been changed slightly with the issuance of the 2001 update to EPA dermal exposure guidance; however, the underlying methods for dermal exposure assessment were not changed, and the recommended dermal exposure factors and chemical-specific constants were only slightly altered due to re-evaluation of the same data sources by a EPA workgroup.

In general, most of the changes in the updated documents do not significantly change the overall conclusions of the HHRA. The contaminated waste materials have been isolated in an on-Site landfill that has been capped and fenced. The cap and the fencing of the landfill, the fact that none of the contaminated groundwater is being used as a potable water source, and the in place institutional controls have eliminated the exposure pathways. There is no current or anticipated future exposure and, therefore, the risks at the Site have been reduced to acceptable levels. However, exposure to the contaminated materials could occur if the landfill cap at the Site were to be breached in future construction or excavation activities.

The construction portion of the remedial action at the Site has been completed with the wastes being capped with a composite cover followed by revegetation. Operation and maintenance activities such as mowing the vegetative cover of the landfill, repairing erosion of the cap, and ground water sampling are being conducted at the Site.

In a letters dated January 14, 2004, and August 12, 2004 addressed to EPA RPM, Victor Janosik, PADEP expressed that it believes the remedy chosen in the 1990 ROD remains protective of human health and the environment. Copies of PADEP's letters are included as Attachment 1.

F. Community Involvement/Interviews

On Tuesday, February 10, 2004, a notice was published in The Erie Times-News notifying the community that EPA was conducting a Five-Year Review at the Site. The notice included a brief overview of the response actions taken at the Site, and the reason that a Five-Year Review is necessary. The notice listed who to contact and how to get additional information related to the Site. In addition, the notice confirmed that the community would be notified upon completion of the Five-Year Review Report.

By way of a letter dated November 7, 2003, EPA informed Lord Corporation of the upcoming conduct of the Five-Year Review. By e-mail dated January 9, 2004, EPA informed PADEP of the conduct of the Five-Year Review and requested an assessment of the State's regulatory and statutory requirements relating to the Site.

On May 4, 2004, the date of the Site inspection, Mr. Victor J. Janosik, EPA's Remedial Project Manager (RPM) for the Site, spoke in person with a very close neighbor of the Site to discern if that neighbor had any concerns relating to the Site's protectiveness. The neighbor expressed no concerns of any kind with the Site and also expressed that no concerns had been raised by the other nearby neighbors. On May 18, 2004, Mr. Janosik spoke by telephone with Ms. Sandra Anderson, Chairperson of the Girard Township Supervisors. Ms. Anderson expressed no concerns with the protectiveness of the Site and noted that she had not received any complaints from the Site's neighbors.

EPA received no communications from the area's citizens in response to the February 10, 2004 newspaper notice.

G. Institutional Controls

For the purposes of the Five-Year Review, Lord Corporation retained the services of an Erie, Pennsylvania law firm to check the Erie County Office of the Recorder of Deeds to ascertain whether the institutional controls required by the ROD and the Consent Decree are still in place. By letter dated May 4, 2004, the law firm informed Lord Corporation that the required "Notice Of Obligation" (deed notice) is still in place. A copy of the letter to Lord Corporation and a copy of the deed "Notice Of Obligation" are included as Attachment 2.

VII. Technical Assessment

QUESTION A: IS THE REMEDY FUNCTIONING AS INTENDED BY THE DECISION DOCUMENTS?

Yes.

The review of Site-related documents, risk assumptions, and the results of the Site inspection indicates that the constructed remedy is functioning as intended by the ROD. The landfill cap and fencing prevent any potential for direct contact with contaminated soil. The institutional controls have been placed on the deed to the property as verified at the Erie County Court House. During the May 4, 2004 Site inspection, no activities were observed in violation of the institutional controls.

QUESTION B: ARE THE EXPOSURE ASSUMPTIONS, TOXICITY DATA, CLEANUP LEVELS, AND REMEDIAL ACTION OBJECTIVES (RAOS) USED AT THE TIME OF THE REMEDY SELECTION STILL VALID?

Yes.

Remedial Action Objectives

There have been no changes in the Site conditions that would affect RAOs or the overall protectiveness of the remedy. The work that has been accomplished has been designed and implemented to meet the RAOs.

Changes in Standards and To Be Considered (TBCs)

In consultation with the assigned EPA, Region III, Risk Assessor, the Site review team determined that there have been no changes in ARARs or TBCs that affect the protectiveness of the remedy. ARARs that still must be met include the Maximum Contaminant Levels (MCLs) and non-zero Maximum Contaminant Level Goals (MCLGs) contained in 40 CFR Parts 141 and 143 and parallel Commonwealth of Pennsylvania requirements with regard to ground water; and Federal Ambient Water Quality Criteria and parallel Commonwealth of Pennsylvania requirements pertaining to protection of aquatic life in the unnamed tributary of Elk Creek. It is important to note that, even though the ROD lists MCLs as ARARs for ground water, the cleanup goal, as well as the overriding ARAR specified in the ROD is that ground water is to be remedied to background contaminant levels. The ARARs identified in the 1990 ROD for this Site are listed above in Section VI.E.

The ARARs which received the most attention during the review process were the MCLs for drinking water contaminants promulgated under the federal Safe Drinking Water Act. The ROD identified MCLs as relevant and appropriate requirements at the Site when considering the hypothetical future use of the ground water as a potable water source. Since the 1999 Five-Year Review, EPA has revised the MCL for arsenic from 50 µg/L to 10 µg/L. The MCL for lead has been replaced by a drinking water action level of 15 µg/L. These changes are diminished in relevance by the fact that the ultimate cleanup goal required by the ROD is that ground water is to be remedied to background contaminant concentrations. Site-related contaminants have consistently not been detected in the monitored background well, well W-26A.

Changes in Exposure Pathways, Toxicity, and Other Contaminant Characteristics

Land use and zoning on the properties surrounding the Site remain residential and agricultural. Although the primary source of drinking water is ground water, no wells used for potable water have been affected by Site-related contaminants.

The exposure assumptions used to develop the risk assessment included assumed exposures to contaminated soils and to contaminated water. The ecological risk assessment considered the protection of aquatic life in the unnamed tributary of Elk Creek. The assumptions are considered to be conservative and reasonable in evaluating risk and developing risk-based cleanup levels. No change to these assumptions, or the cleanup levels developed from them is being considered at this time. The ROD clean-up criteria continue to be protective of human health and the environment.

QUESTION C: HAS ANY OTHER INFORMATION COME TO LIGHT THAT COULD CALL INTO QUESTION THE PROTECTIVENESS OF THE REMEDY?

No.

No other information has come to light that calls into question the protectiveness of the remedy as constructed in conformance with the ROD.

Technical Assessment Summary

According to the data and documents reviewed, the Site inspection, and the interviews, the remedy is functioning as intended by the ROD. There have been no changes in the surrounding land use or the physical conditions of the Site that would affect the protectiveness of the remedy. The only changes to the ARARs identified for the Site in the ROD were the changes noted above for lead and for arsenic in drinking water. Based on a review of historic ground water monitoring results, the revised MCL for arsenic and the revised drinking water advisory for lead do not effect the protectiveness of the remedy. There have been no changes in the toxicity factors for the contaminants of concern that were used in the baseline risk assessment, and there has been no change to the standardized risk assessment methodology that could affect the protectiveness of the selected remedy. Institutional controls required by the ROD have been placed and remain in effect. There is no other information that calls into question the protectiveness of the selected remedy.

VIII. ISSUES

There are no outstanding issues or concerns related to the Lord-Shope Landfill Site.

IX. RECOMMENDATIONS AND FOLLOW-UP ACTIONS

There are no recommendations for follow-up actions at the Lord-Shope Landfill Site.

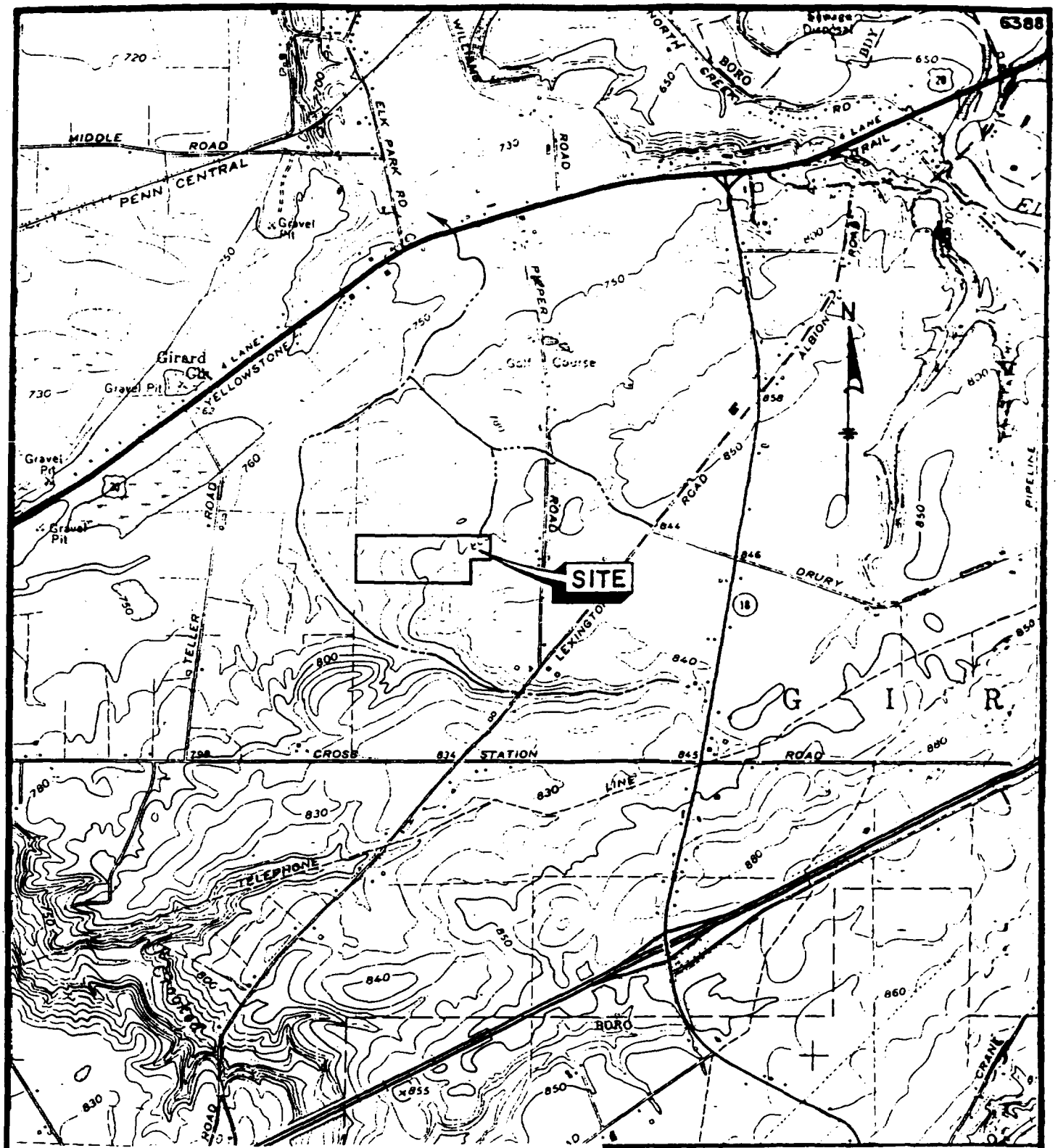
X. Protectiveness Statement

The constructed remedy is functioning as intended by the ROD. The landfill cap and Site fencing provide two lines of defense to prevent any potential for direct contact with contaminated soil. The ground water extraction system is functioning as designed and the discharge of treated effluent to the unnamed tributary of Elk Creek consistently meets or exceeds NPDES standards. There are no exposures to Site-related ground water contaminants. The vapor extraction system is also functioning as designed. The institutional controls are in place and are being maintained on the deed to the property thereby providing an effective warning to any potential future owners of the property regarding the contamination. Because there are no current exposures and because the potential for future exposures is minimal, the remedy at the Site remains protective of human health and the environment.

XI. Next Review

Completion of the next Five-Year Review for the Lord-Shope Landfill Superfund Site is required five years from the signature date of this Five-Year Review.

FIGURES



SOURCE: ALBION, (1959, REV. 1969)
PA. 7.5' QUADRANGLE

2000 0 2000
scale feet

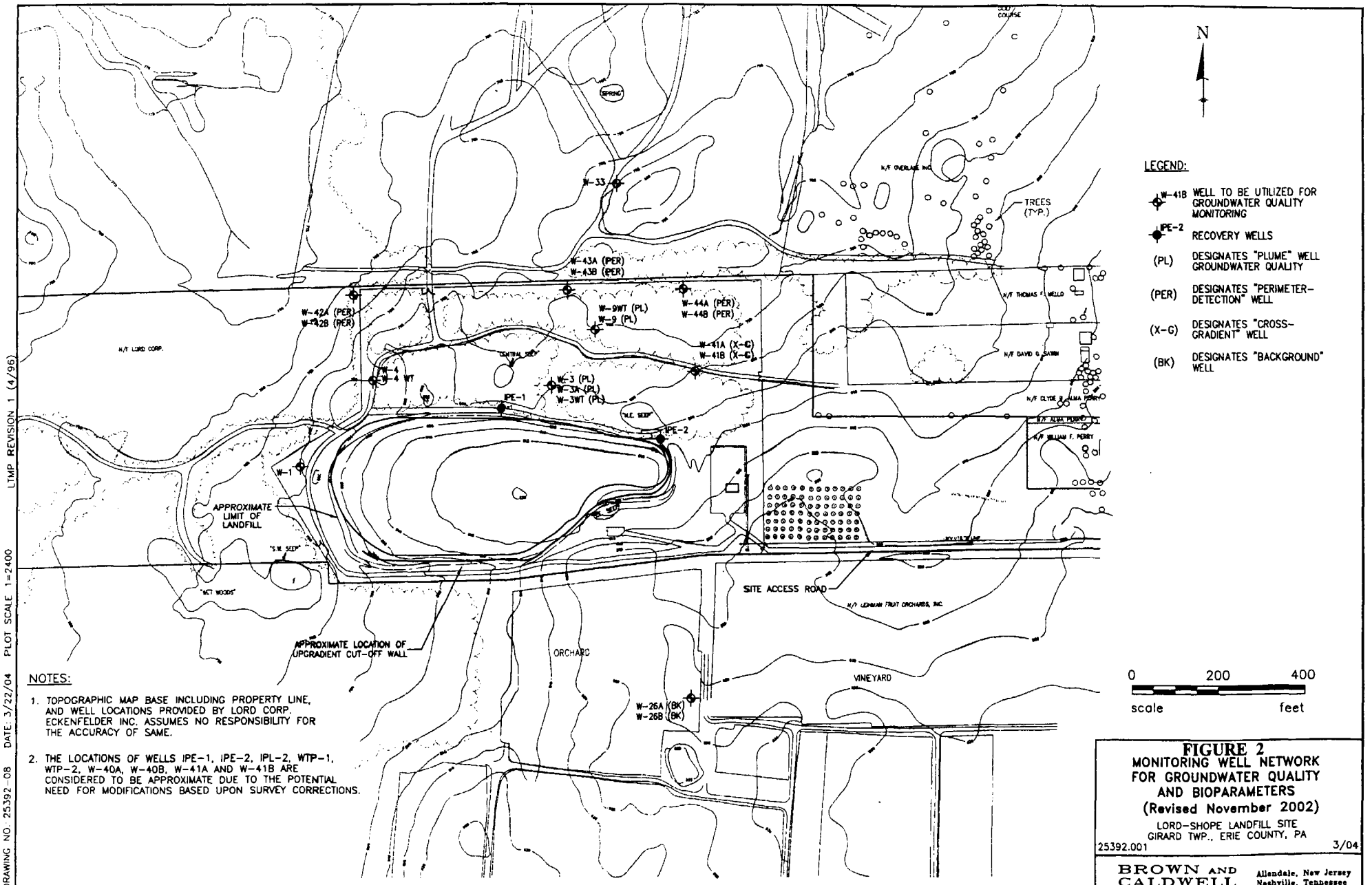
MAP LOCATION

FIGURE 1
LOCATION MAP

SHOPE'S LANDFILL SITE
LORD CORP.
GIRARD TWP., PA.

ECKENFELDER INC. Nashville, Tennessee
Mahwah, New Jersey

AR302046



NOTES:

1. TOPOGRAPHIC MAP BASE INCLUDING PROPERTY LINE, AND WELL LOCATIONS PROVIDED BY LORD CORP. ECKENFELDER INC. ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF SAME.
2. THE LOCATIONS OF WELLS IPE-1, IPE-2, IPL-2, WTP-1, WTP-2, W-40A, W-40B, W-41A AND W-41B ARE CONSIDERED TO BE APPROXIMATE DUE TO THE POTENTIAL NEED FOR MODIFICATIONS BASED UPON SURVEY CORRECTIONS.

FIGURE 2
MONITORING WELL NETWORK FOR GROUNDWATER QUALITY AND BIOPARAMETERS
(Revised November 2002)

LORD-SHOPE LANDFILL SITE
GIRARD TWP., ERIE COUNTY, PA

25392.001 3/04

BROWN AND CALDWELL Allendale, New Jersey Nashville, Tennessee

DRAWING NO. 25392-08 DATE: 3/22/04 PLOT SCALE 1=2400 LTMP REVISION 1 (4/96)

FIGURE 3
ISVS INFLUENT ANNUAL AVERAGE VOCs

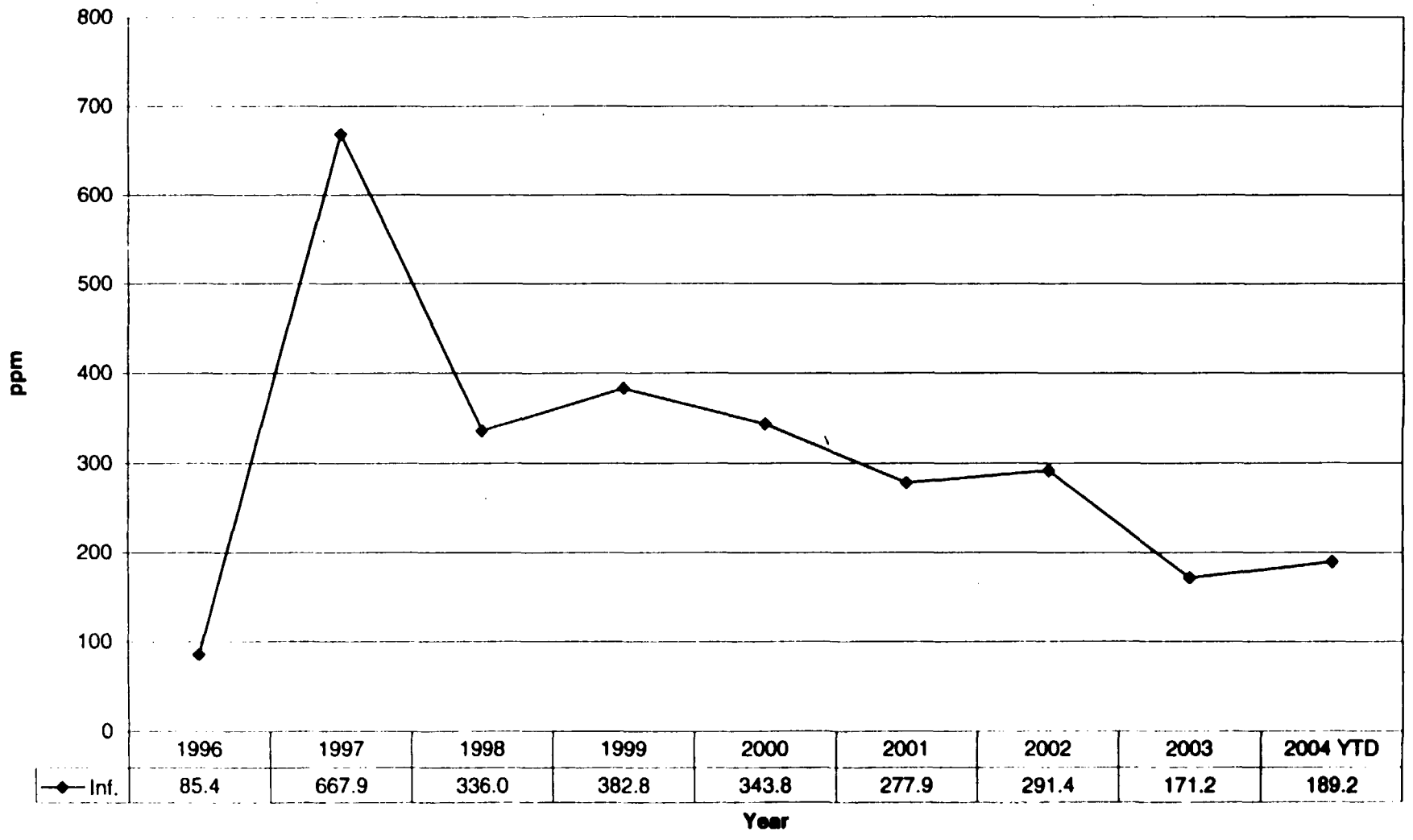
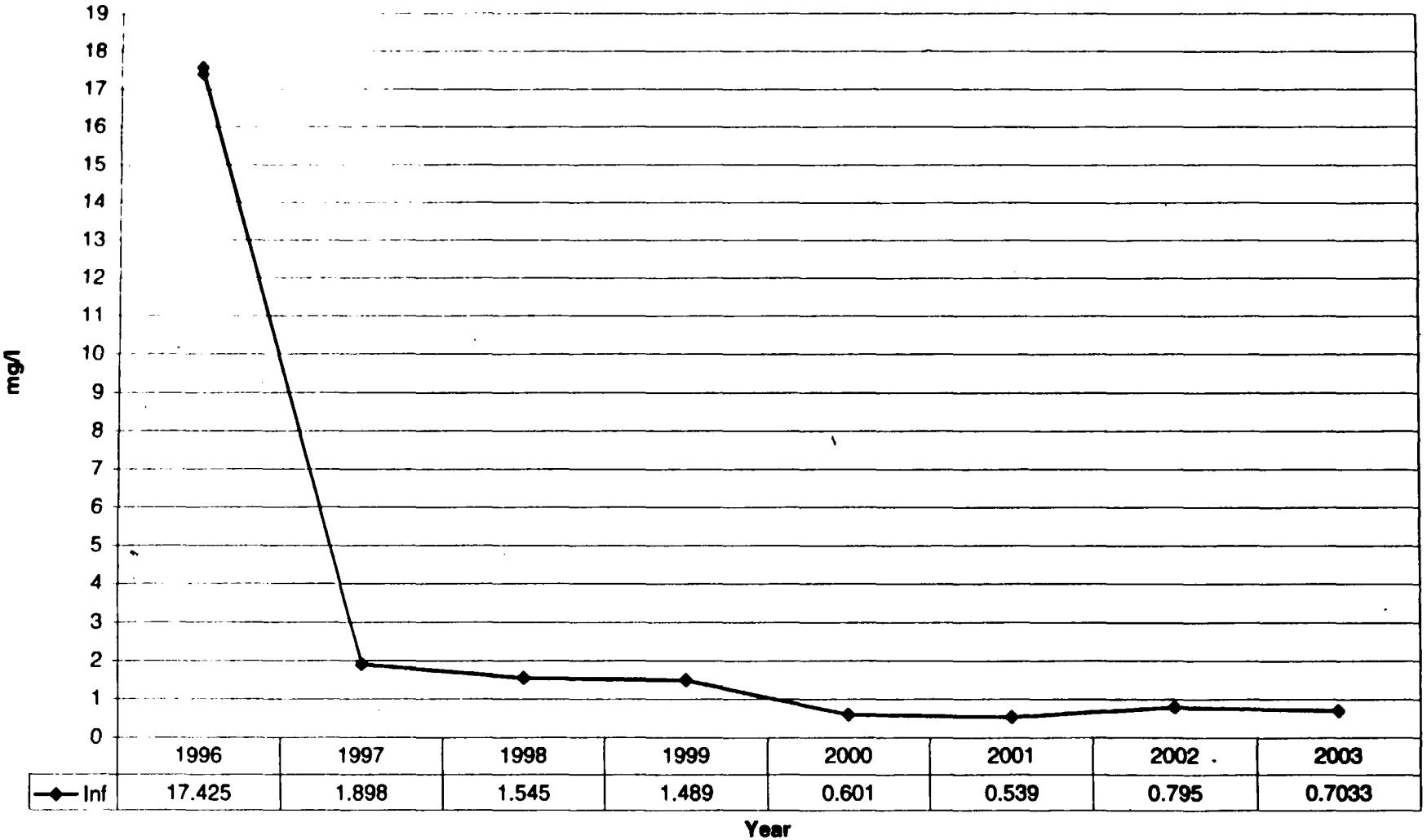


FIGURE 4

GROUND WATER TREATMENT PLANT INFLUENT
ANNUAL AVERAGE VOCs



	1996	1997	1998	1999	2000	2001	2002	2003
Inf	17.425	1.898	1.545	1.489	0.601	0.539	0.795	0.7033

ATTACHMENTS

ATTACHMENT 1

PADEP LETTERS

Pennsylvania Department of Environmental Protection

230 Chestnut Street
Meadville, PA 16335-3481
January 14, 2004

Northwest Regional Office

814-332-6648
Fax: 814-332-6121

Mr. Victor Janosik
Remedial Project Manager
US EPA Region III (3HS22)
1650 Arch Street
Philadelphia, PA 19103-2029

Received
1-20-04 by
V. Janosik, RPM

Re: Applicable, or Relevant and Appropriate Requirements
Lord-Shope Landfill Site
Girard Township, Erie County

Dear Mr. Janosik:

The Department has completed its review of the applicable, or relevant and appropriate requirements (ARARs) for the Lord-Shope Landfill Site. This review was completed as requested to ensure that the "remedy chosen remains protective of human health and the environment." Our conclusions are based upon the ARARs identified in the June 29, 1990, Record of Decision (ROD) and the periodic monitoring reports, which have been provided by Lord Corporation to the Department throughout the Remedial Action.

Based upon that review, the Department believes that the remedy chosen remains protective of human health and the environment and we are unaware of any changes that would put into question the protectiveness of the remedy.

Thank you for your ongoing management of the cleanup of the Lord-Shope site. Please feel free to contact me at 814-332-6648 with any questions or comments that you might have regarding the site.

Sincerely,

Nathan Welker
Project Manager
Environmental Cleanup Program

cc: Mark Gorman (via email)
Craig Olewiler (via email)

File

NW:ll

Pennsylvania Department of Environmental Protection

230 Chestnut Street
Meadville, PA 16335-3481
August 12, 2004

Northwest Regional Office

814-332-6648
Fax: 814-332-6121

Originally received via e-mail 8/12/04 by V. Janosik, RPM

Mr. Victor Janosik
Remedial Project Manager
US EPA Region III (3HS22)
1650 Arch Street
Philadelphia, PA 19103-2029

Re: PADEP Review and Comments
Draft Five-Year Review Report
Lord-Shope Landfill Site
Girard Township, Erie County

Dear Mr. Janosik:

The Department has completed its review of the Five-Year Review Report for the Lord-Shope Landfill Superfund Site ("Report"), submitted to the Department in draft for comment. This is the second five-year report completed for this site since the Preliminary Close Out Report was signed on September 30, 1996. The Report concludes that the remedy was: constructed in accordance with the requirements of the Record of Decision ("ROD"); is functioning as designed; meets Applicable, or Relevant and Appropriate Requirements ("ARARs"); is "protective of human health and the environment; is conscientiously maintained; and the appropriate deed notices and restrictions are in place.

Based on the ROD, ongoing monitoring reports, and the Site visit of May 2, 2004, the Department concurs with the conclusions in the Five-Year Review Report without additional comment.

If I can be of additional assistance, please call me at 814-332-6836. We appreciate the opportunity to work with you in this matter.

Sincerely,

Gary L. Mechtly
Project Manager
Environmental Cleanup

cc: M. Gorman, HSCA Chief (via email)
Craig Olewiler (via email)
G. Mechtly -- File

GLM:lsl

AR302052

ATTACHMENT 2

DEED NOTICE

MACDONALD ILLIG JONES & BRITTON LLP

ATTORNEYS AT LAW

100 STATE STREET, SUITE 700
ERIE, PENNSYLVANIA 16507-1459
814-870-7600
FAX 814-454-4647
www.macdonaldillig.com

Direct Dial 814-870-7607

E-Mail mshaw@macdonaldillig.com

May 4, 2004

VIA FACSIMILE AND U.S. MAIL

George M. Kickel, CSP, CIH
Manager, Safety and Industrial Hygiene
Lord Corporation
2000 West Grandview Boulevard
P.O. Box 10038
Erie, PA 16514-0038

Received 5-18-04 by V. Jenark, RPM

Re: Lord Shope Superfund

Dear George:

Per your request, we searched the recorder of deeds for the Shope landfill property to ensure that the deed restrictions required by the United States Environmental Protection Agency are still in place. We found that the restrictions, in fact, are still in place. On October 17, 1991 Lord Corporation filed a Notice of Obligation that included the following restrictions that run with the land:

(1) The United States of America and its representatives shall have access at all reasonable times to the property for purposes of effectuating and monitoring compliance with the terms of the Consent Decree, all as provided in Section X (Access) of the Consent Decree;

(2) No grantee or successor-in-title shall interfere with, obstruct or disturb the performance, support or supervision of any remedial or response actions taken or to be taken on the property, including any operation and maintenance activities conducted in connection with the terms of the Consent Decree; and

(3) The grantee or successor-in-title shall inform any person or entity that subsequently acquires any title, easement, leasehold or other interest in the property or any portion thereof of the requirements, conditions and operative effect of Section X (Access) of the Consent Decree.

The Notice of Obligation is recorded at Book 0180, Page 2263, and a copy of what is filed is enclosed. There is no subsequent filing removing these restrictions; thus, they are still in effect.

In addition, the Consent Decree entered into between Lord Corporation and the United States is recorded, and can be found at Book 0180, Page 2091. Given its length, I did not have it copied.

Let me know if you need anything else. As always, I can be reached at 870-7607.

Very truly yours,

MacDONALD, ILLIG, JONES & BRITTON LLP

By _____
Mark J. Shaw

MJS/tmb/821564
Enclosure

RECORDER OF DEEDS

2402

BK0180 PG2263

'91 OCT 17 P1:05

COMMONWEALTH OF PENNSYLVANIA)
) NOTICE OF OBLIGATION
COUNTY OF ERIE)

THIS NOTICE OF OBLIGATION is made and effective this 16th day of October, 1991, by Lord Corporation, a Pennsylvania Corporation, with its principal place of business located at 2000 West Grandview Boulevard, Erie, PA 16514-0038;

WITNESSETH THAT:

In accordance with the terms of Section V. E. of the Consent Decree between the United States of America and Lord Corporation entered in the United States District Court For The Western District of Pennsylvania (Civil Action No. 91-117E) on September 27, 1991, a certified copy of which is recorded in the Office of the Recorder of Deeds of Erie County, Pennsylvania at Deed Book No. 180, Page No. 2091, Lord Corporation does hereby advise any and all persons and entities, including any grantee or other successor-in-title, of the responsibilities and obligations, under the Consent Decree, of Lord Corporation and/or such grantees or successors-in-title in and to the following parcels of property owned by Lord Corporation as of this date:

All those pieces and parcels of land situated in the Township of Girard, County of Erie and Commonwealth of Pennsylvania, located at or adjacent to property known as 6262 Pieper Road, Girard Township, PA, a portion of which properties is also known as the Lord-Shope Superfund Site, which have been conveyed to Lord Corporation on the following dates and by the following persons:

Melvin L. Shope and Meryl A. Shope, his wife, by Deed, dated June 6, 1983, recorded in the Office of the Recorder of Deeds of Erie County, PA on June 24, 1983 at Deed Book No. 1499, Page No. 95;

Clyde Perry and Alma Pearl Perry, his wife, by Deed, dated June 12, 1986, recorded in the Office of the Recorder of Deeds of Erie County, PA on June 17, 1986 at Deed Book No. 1633, Page 598; and

Estate of Meryl A. Shope (Virginia I. Platz, Executrix), by Deed dated July 15, 1991, recorded in the Office of the Recorder of Deeds of Erie County, PA on July 17, 1991 at Record Book No. 169, Page 31.

Pursuant to the terms of the Consent Decree, the following covenants shall apply to and shall run with the parcels of land identified above, as well as any other properties located adjacent or contiguous to the parcels identified above which are subsequently acquired or controlled by Lord Corporation, and shall be binding upon Lord Corporation and any and all grantees or successors-in-title to all or part of the properties identified above:

1. The United States of America and its representatives shall have access at all reasonable times to the property for purposes of effectuating and monitoring compliance with the terms of the Consent Decree, all as provided in Section X (Access) of the Consent Decree;

2. No grantee or successor-in-title shall interfere with, obstruct or disturb the performance, support or supervision of any remedial or response actions taken or to be taken on the property, including any operation and maintenance activities conducted in connection with the terms of the Consent Decree;

3. The grantee or successor-in-title shall inform any person or entity that subsequently acquires any title, easement, leasehold or other interest in the property or any portion thereof of the requirements, conditions and operative effect of Section X (Access) of the Consent Decree.

IN WITNESS WHEREOF, Lord Corporation has caused this Notice of Obligation to be executed by its duly authorized representative, as of the day and date first above written.

LORD CORPORATION

James W. Wright

James W. Wright
Vice President, Legal Affairs
and Secretary

STATE OF PENNSYLVANIA)
)
COUNTY OF ERIE)

On this the 16th day of October, 1991, before me appeared James W. Wright, known to me, and acknowledged the foregoing instrument to be his free act and deed, being authorized to do so, as Vice President of Lord Corporation, a Pennsylvania corporation.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Mary L. Winschel
Notary Public

NOTARIAL SEAL
MARY L. WINSCHEL, NOTARY PUBLIC
ERIE, ERIE COUNTY, PENNSYLVANIA
MY COMMISSION EXPIRES JUNE 26, 1995

David B. Wilson
CLERK OF RECORDS
ERIE, CO. PA.